

ABSTRACT

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**HIGH STRENGTH, BIO-COMPATIBLE TISSUE ADHESIVE AND  
METHODS FOR TREATING VIGOROUSLY BLEEDING SURFACES**

Disclosed is a novel tissue adhesive technology comprising a combination of ultrasonically treated proteins including collagen and albumin which form a viscous material that develops adhesive properties when chemically cross-linked. A novel new cross-linking agent with surprisingly stable properties was developed in association with the tissue adhesive described and claimed herein and is considered to be within the scope of the present invention. This new cross-linking agent is a product of reacting glutaraldehyde with amino acids or peptides and allowing the reaction to proceed to completion. This chemical cross-linker is mixed with the ultrasonically treated proteins, allowed to react for a pre-determined time, then used to seal large surface areas of vigorously bleeding tissues including, but not limited to, the liver, lungs and major vascular systems in patients with and without bleeding disorders. This same tissue adhesive has proven to work well in sealing suture sites to prevent leakage.